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FtsZ-mt2 consensus2 Map MPD (1 > 1423) Site and Sequence

Circular, Certain Sites Only, Standard Genetic Code Enzymes: 50 of 502 enzymes (Filtered)

GATGGCGATATCCCGCATGAAAGCTGCGGCGATGGCGGCTGCTACGTGCCCGCCAGACCTCCCAGTCCGCALTCA CTACCGCTATAGGGCGTACTTTCGACGCCGCTACCGCGACGATGCACGGGCGGTCTGGAGGGTCAGGCGGTGAGT

Met Ala lie Ser Arg Met Lys Ala Ala Ma Met Ala Leu Leu Arg Ala Arg Gin Thr Ser Gin Ser Ala Thr Gin

Pst i

Tag

120 ACACCICGCCTTCTCTACTGAAGCCACTGATGCTGCAGCTGCCGTTACGCATGGGCTTTAAAAAGGCTCGAAA TGTGGAGCGGAAGAAGATGACTTCGGTGACTACGACGTCGACGCGCAATGCGTACCCGAAATTTTTCCGAGCTTT

His Leu Ala Phe Ser Thr Glu Ala Thr Asp Ala Ala Ala Ala Ala Leu Arg Met Gly Phe Lys Lys Ala Arg Lys

AGACGAGGATGGCGGTGTGAAAGTGGGGCTTGGAGGCAGAGCCCGATTCACCAACAGATGTGAGCGCCGTTTCGAC 225 TCTGCTCCTACCGCCACACTTTCACCCCGACCTTCGTCTCGGGGTAAGTGGTTGTCTACACTCGCGGCAAAGCTG

Asp Giu Asp Giy Giy Vai Lys Vai Giy Leu Giu Ala Giu Pro Asp Ser Pro Thr Asp Vai Ser Ala Vai Ser Thr

CGGTCATCATCTCTTCTTCGAGCACGGCGGTCGGTACTCGAGGTGTGTCGGTGAAACCGAGTGTGTCCTGGTAGG

Pro Val Val Glu Lys Lys Leu Val Pro Pro Ala Met Ser Ser Thr Gln Pro Leu Trp Leu Thr Gln Asp His Pro

T@TGACAGACCTGTCGGGGCTTTGCACCGAAGATTGTGGTGGTTGGCGTCGGAGGAGCTGGAGGAATGCGGTGAA A CACTGTCTGGACAGCCCGAAACGTGGCTTCTAACACCACCAACCGCAGCCTCCTCGACCTCCTTTACGCCACTT

Vol Thr Asp Leu Ser Gly Phe Ala Pro Lys Ile Vol Val Val Gly Val Gly Ala Gly Ala Gly Ash Ala Val Ash

FtsZ-mt2 consensus2 Map MPD (1 > 1423) Site and Sequence

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BssHII

GTTBTACTAGCGCGCGCGCGCACGTCCCACACCTCAAAGAACAAACGTTGTGCCTACGAGTCGTGAATGCGTGCTG CAACATGATCGCGCGCGCCCTGCAGGGTGTGGAGTTTCTTGTTTGCAACACGGATGCTCAGCACTTACGCACGAC

525 Asn Het lie. Ala Arg Gly Leu Gin. Gly Val Glu Phe Leu Val Cys Asn Thr Asp Ala Gin His Leu Arg Thr Thr GCTGACGGAGAACCGCGTTCAGATGGCTCCTGAATTGACTGGAGGACTGGGCTGTGGCGCTAACCCCGAAGTTGG CGACTGCCTCTTGGCGCAAGTCTACCGAGGACTTAACTGACCTCCTGACCCGACACCGCGATTGGGGCTTCAACC

900 Leu Thr Glu Asn Arg Ya! Gln Met Ala Pro Glu Leu Thr Gly Leu Gly Cys Gly Ala Asn Pro Glu Ya! Gly

Arg Giu Ala Ala Giu Ala Ala 11e Asp Giu 11e Leu Giu Arg Val Gin Giy Ala Asn Met Met Phe Val Thr Ala CCCATACCCACCGCCTTGTCCA1GTCCACGTCGTGGGCAGTAACGAGTCCGACGGAATCTACGACCATAGGAGTG GGGTATGGGTGGCGGAACAGGTACAGGTGCAGCACCCGTCATTGCTCAGGCTGCCTTAGATGCTGGTATCCTCAC

Gly Met Gly Gly Gly Thr Gly Thr Gly Ala Ala Pro Val IIe Ala Gln . Ala Ala Leu Asp Ala Gly IIe Leu Thr

t 750 CGTAGCTGTCGTTACTAAGCCGTTCCGGTTTGAGGGAAACAACCGTGCAAAGCTTGCGGCACAAGGCTCGCTGA GCATCGACAGCAATGATTCGGCAAGGCCAAACTCCCTTTGTTGGCACGTTTCGAACGCCGTGTTCCGGAGCGACT

Voi Ala Voi Vai Thr Lys Pro Phe Arg Phe Giu Giy Asn Asn Arg Ala Lys Leu Ala Ala Gin Giy Leu Ala Giu

Sau3A I

TGACTTCCTATCGCAGCTATGCTACGAACACTAGGGCTTGGTTTTGAACAAGTTGTACAGTTTACTCGCGTGGAG ACTGAAGGATAGCGTCGATACGATGCTTGTGATCCCGAACCAAAACTTGTTCAACATGTGAATGAGCGCACCTC

Leu Lys Asp Ser Val Asp Thr Met Leu Val 11e Pro Ash Gin Ash Leu Phe Ash Met Ser Ash Glu Arg Thr Ser

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FtsZ-mt2 consensus2 Map MPD (1 > 1423) Site and Sequence

GTIGATGGACGCATTCAGAATGGCGGACAATGTGCTTCTGGACGGTGTCAAGAACATTTCGGATTTGATGGTGAT CAACTACCTGCGTAAGTCTTACCGCCTGTTACACGAACACCTGCCACAGTTCTTGTAAAGCCTAAACTACCACTA

Leu Met Asp. Alg Phe Arg. Met. Alg Asp. Asn Val. Leu Leu. Asp. Gly. Val. Lys. Asn. 11e. Ser. Asp. Leu. Met. Val. Met

GCCTGSGCTCATTAACCTTGACTTTGCGGATGTTCAATCGGTCATGCAAAATATGGGAAACGCTATGATGGGAAG CGGACCCGAGTAATTGGAACTGAAACGCCTACAAGTTAGCCAGTACGTTTTATACCCTTTGCGATACTACCCTTC

Pro Gly Leu IIe Asn Leu Asp Phe Ala Asp Yai Gin Ser Yai Met Gin Asn Met Gly Asn Ala Met Met Gly Ser

TGGAGAGGCCGATGGAGAAATGGGCTCTGCGTGCTGCTGGAGATGCATTGGCGAACCCTCTTCTGGGGAATT ACCTETEGGGCTACETETTAGEECEGAGACGCACGAEGACTTETACGTAAEEGGETTGGGAGAAGACECAETAA

Gly Glu Ala Asp Gly Glu Asn Arg Ala Leu Arg Ala Ala Glu Asp Ala Leu Ala Asn Pro Leu Leu Gly Asp lie

AAGCTAATTCCTGCGGTTCCCGTACTAGCAATTATAGTGCCCTCCGAGGCTGGACTGCGATAAACTTCAACTACT TTCGATTAAGGACGCCAAGGGCATGATCGTTAATATCACGGGAGGCTCCGACCTGACGCTATTTGAAGTTGATGA

Ser lie Lys Asp Ala Lys Gly Met lie 'Yai Asn lie Thr Gly Gly Ser Asp Leu Thr Leu Phe Glu 'Yai Asp Glu

Sau3A !

Tad

GGCTGCTGAGCGTGTGACGCGGGGAACTTGATGATCCACACGCCAACATCATCTTGGGTTCGACCTTCGACGACTC CCGACGACTCGCACCACTGCCCCTTGAACTACTAGGTGTGCGGTTGTAGTAGAAGCCAAGCTGGAAGCTGCTGAG

Ala Ala Glu Arg Val Thr Arg Glu Leu Asp Asp Pro His Ala Asn ile. Ile Phe Gly Ser Thr Phe Asp Asp Ser

CGACCCGCCGTTCGATGCGCAGAGGCACCAACGGTGACCATAACGGCTGGGGGCTGTTCAATATCTTCGGCACTAC GCTGGGCGGCAAGCTACGCGTCTCCGTGGTTGCCACTGGTATTGCCGACCCGACAAGTTATAGAAGCCGTGATG

Leu Gly Gly Lys Leu Arg Val Ser Val Val Ala Thr Gly 11e. Ala Asp Pro Asp Lys Leu 🔹

FisZ-mt2 consensus2 Map MPD (1 > 1423) Site and Sequence

TTGGCCAGTATCAAAGCGTAAGCAGGGGAATGACGCTAATGACGTGATTGCTCAAGAAATCTCTACAATTIGAA AACCGGTCATAGTTTCGCATTCGTCCCCTTACTGTGGATTACTGCACTAACGAGTTCTTTAGAGATGTTAAACTT

CACCGTAGCTACAGAGGTGCGTGGGCGCGCACGACTAGCCTAACCATAATATGCCTGACGAAGTATGAATCAA GTGGCATCGATGTCTCCACGCACCCGCGCGTGCTGATCGGATTGGTATATACGGACTGCTTCATACTTAGTT

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	Source Organism (organelle)	GenBank Accession No.
SEQ ID NO: 11	Agrobacterium tumefaciens	030992
SEQ ID NO: 12	Sinorhizobium meliloti	P30327
SEQ ID NO: 12	Bartonella clarridgeiae	AAD31718
SEQ ID NO: 14	Rickettsia prowazekii	Q9ZCQ3
SEO ID NO: 15	Caulobacter crescentus	P52976
SEQ ID NO: 16	Cyanidioschyzon merolae (mt)	BAA85115
SEQ ID NO: 4	Phytophthora infestans -mt2	this invention
SEQ ID NO: 17	Mallomonas splendens (mt)	AAF35432
SEQ ID NO: 2	Phytophthora infestans -mtl	this invention
SEQ ID NO: 18	Gentiana lutea (cp)	T51088
SEQ ID NO: 19	Nicotiana tabacum (cp, 2-1)	T51087
SEQ ID NO: 20	Arabidopsis thaliana (cp, 2-1)	T49028
SEQ ID NO: 20	Physcomitrella patens (cp, 1)	
SEQ ID NO: 22	Physcomitrella patens (cp, 2)	
SEQ ID NO: 23	Guillardia theta (cp)	CAB40398
SEQ ID NO: 23	Mallomonas splendens (cp)	AAF35433
SEQ ID NO: 24 SEQ ID NO: 25	Anabaena PCC7120	CAA83241
SEQ ID NO: 25	Synechocystis PCC6803	P73456
	Arabidopsis thaliana (cp,1-1)	
SEQ ID NO: 27	-	T06774
SEQ ID NO: 28	Pisum sativum (cp) Nicotiana tabacum (cp,1-3)	CAB89287
SEQ ID NO: 29	Nicotiana tabacum (cp, 1-3)	CAB41987
SEQ ID NO: 30	Nicotiana tabacum (cp,1)	CAB89286
SEQ ID NO: 31	Nicotiana tabacum (cp, 1-1)	AAF23770
SEQ ID NO: 32	Nicotiana tabacum (cp,2)	AAE 23110
		50
Bacterial FtsZ		VVANTDAQALTMTKADRVIQLGVNVTEGL
SEQ ID NO: 11	PRITYFGVGGGGGNAVNNMIIVGLQGVDF	VVANIDAQALIMIKABKVIQBOVKVIBGE VVANIDAQALIMIKAERIIQMGVAVIEGL
SEQ ID NO: 12	PRITYFGVGGGGGNAVNNMI IAGLQGVDF	VVANTDAQALIMIKAERVIQLGAAVTEGL
SEQ ID NO: 13	PRITY FGVGGGGGNAV NNMI NAGLQG V DE	VVANTDAQALAHSKAEKVIQLGAAVILGE VVANTDAQSLEHSLCINKIQLGVSTTRGL
SEQ ID NO: 14	PTITYEGYGGAGSNAVNNMI HANDQGANE	VVANTDAQSIERSBCTRRIQLGV8TTRGE VVANTDAQQLQFAKTDRRIQLGVQITQGL
SEQ ID NO: 15		VVANIDAQQBQFAKIDKKIQBOVQIIQOB
Mitochondrial Fts	<u> </u>	TANDONONI PMC I CONDIOI CACI TECI
SEQ ID NO: 16	PRIMVVGVGGAGGNAVNNMIASSLPGVEF	LVANTDAQALKMSLCPNRIQLGASLTEGL
SEQ ID NO: 4	PKIVVVGVGGAGGNAVNNMIARGLQGVEF	TLVCNTDAQHLRTTLTENRVQMAPELTGGL
SEQ ID NO: 17	PKICVFGVGGGGCNAVNNMIAKKLSGVEF	TVCANTDAQHLSTCLTENKLQLGKESTQGL
SEQ ID NO: 2	ASQLEGVEE	FIVANTDCQALGRSLAPHKITLGKDITKGL
Chloroplast FtsZ		THI DIMENTO A TIME DIVI ENDI ATCARI TRO
SEQ ID NO: 18	AKIKVVGVGGGGSNAVNRMIESAMKGVEE	TWIVNTDVQAIKMSPVYLENRLQIGQELTRGL
SEQ ID NO: 19	AKIKVVGVGGGGSNAVNRMIESSMKGVEE	TWIVNTDIQAMRMSPVAAEQRLPIGQELTRGL
SEQ ID NO: 20	ARIKVIGVGGGGSNAVNRMIESEMSGVEE	WIVNTDIQAMRMSPVLPDNRLQIGKELTRGL
SEQ ID NO: 21	AKIKVIGVGGGGSNAVNRMLESEMQGVE	WIVNTDAQAMALSPVPAQNRLQIGQKLTRGL
SEQ ID NO: 22	AKIKVIGVGGGGSNAVNRMLESEMQGVE	WIVNTDAQAMALSPVPAQNRLQIGQKLTRGL
SEQ ID NO: 23	CVIKVIGVGGGGGNAVNRMVG.GVEGVE	WSINTDAQALSRSLAPNTCNIGAKLTRGL
SEQ ID NO: 24		LWVVNTDAQALSRSSAKRRLNIGKVLSRGL
SEQ ID NO: 25	ANIKVIGVGGGGGNAVNRMIESDVSGVE	WSINTDAQALTLAGAPSRLQIGQKLTRGL
SEQ ID NO: 26	AKIKVIGVGGGGCNAVNRMIASGVTGIDE	FWAINTDSQALTNTNAPDCIQIGQKLTRGL
SEQ ID NO: 27	ARIKVIGVGGGGNNAVNRMISSGLQSVD	FYAINTDSQALLQFSAENPLQIGELLTRGL
SEQ ID NO: 28	AKIKVVGIGGGGNNAVNRMIGSGLQGVD	FYAINTDAQALLHSAAENPIKIGELLTRGL
SEQ ID NO: 29	AKIKVIGVGGGGNNAVNRMIGSGLQGVD	FYAINTDAQALLQSAAENPLQIGELLTRGL
SEQ ID NO: 30	AKIKVIGVGGGGNNAVNRMIGSGLQGVDI	FYAINTDAQALLQSAAENPLQIGELLTRGL
SEQ ID NO: 31	AKIKVVGVGGGGNNAVNRMIGSGLQGVDI	FYAVNTDAQALLQSTVENPIQIGELLTRGL
SEQ ID NO: 32	AKIKVVGVGGGGNNAVNRMIGSGLQGVDI	FYAVNTDAQALLQSTVENPIQIGELLTRGL

110 60 Bacterial FtsZ GAGSQPEVGRAAAEECIDEIIDHLNGTHMCFVTAGMGGGTGTGAAPVVAQAARNKGILTV SEQ ID NO: 11 GAGSQPEVGRAAAEECIDEIIDHLQGTHMCFVTAGMGGGTGTGAAPIVAQAARNKGILTV SEQ ID NO: 12 GAGALPEVGRAAADECIDEIIDHLADSHMVFITAGMGGGTGTGAAPVVANAAREKGILTV SEQ ID NO: 13 GAGASPEVGALAAQESENEIRSSLENSNMVFITAGMGGGTGTGSAPIIARIAKELGILTV SEQ ID NO: 14 GAGAHPEVGMSAAEESFPEIGEHLDGAHMVFITAGMGGGTGTGAAPIIAKCARERGILTV SEQ ID NO: 15 Mitochondrial GAGARPDIGRAAAEEAYETLKREFRGVHLLFVTAGMGGGTGTGAAPIIARAAAELGCLTV SEQ ID NO: 16 GCGANPEVGREAAEAAIDEILERVQGANMMFVTAGMGGGTGTGAAPVIAQAALDAGILTV SEQ ID NO: 4 GCGANPESGRRAAEESKEEIARYIADANMVFITAGMGGGTGTGAAPVVAEVCMEKDILTV SEO ID NO: 17 GAGSKPELGKRSAEQQKVDIQRMLQDSNMLFITGGMGGGTCTGAAPVVASVARELGILTV SEQ ID NO: Chloroplast FtsZ GAGGNPDIGMNAAKESKEAIEEAVYGADMVFVTAGMGGGTGTGGAPVIAGIAKSMGILTV SEQ ID NO: 18 GAGGNPDIGMNAANESKQAIEEAVYGADMVFVTAGMGGGTGTGAAPIIAGTAKSMGILTV SEQ ID NO: 19 GAGGNPEIGMNAARESKEVIEEALYGSDMVFVTAGMGGGTGTGAAPVIAGIAKAMGILTV SEQ ID NO: 20 GAGGNPEIGCSAAEESKAMVEEALRGADMVFVTAGMGGGTGSGAAPIIAGVAKQLGILTV SEQ ID NO: 21 GAGGNPEIGCSAAEESKAMVEEALRGADMVFVTAGMGGGTGSGAAPIIAGVAKQLGILTV SEQ ID NO: 22 GAGGNPEIGRKAAEESRDLIAEAVSAGDLVFVTAGMGGGTGSGAAPIVAEVAKEMGCLTV SEQ ID NO: 23 GAGGNPAIGAKAAEESREEIMAVVKNADLVFVTAGMGGGTGSGAAPVVAECAKEAGALTV SEQ ID NO: 24 GAGGNPAIGQKAAEESRDEIATALEGADLVFITAGMGGGTGTGAAPIVAEVAKEMGALTV SEQ ID NO: 25 GAGGNPAIGQKAAEESRDEIARSLEGTDLVFITAGMGGGTGTGAAPIVAEVAKEMGCLTV SEQ ID NO: 26 GTGGNPLLGEQAAEESKDAIANALKGSDLVFITAGMGGGTGSGAAPVVAQISKDAGYLTV SEQ ID NO: 27 GTGGNPLLGEQAAEESKEAIANALKGSDLVFITAGMGGGTGSGAAPVVAQISKEAGYLTV SEQ ID NO: 28 GTGGNPLLGEQAAEESKEAIANSLKGSDMVFITAGMGGGTGSGAAPVVAQIAKEAGYLTV SEQ ID NO: 29 GTGGNPLLGEQAAEESKEAIANSLKGSDMVFITAGMGGGTGSGAAPVVAQIAKEAGYLTV SEQ ID NO: 30 GTGGNPLLGEQAAEESKEHIANALKGSDMVFITAGMGGGTGSGAAPVVAQIAKEAGYLTV SEQ ID NO: 31 GTGGNPLLGEQAAEESKEHIANALKGSDMVFITAGMGGGTGSGAAPVVAQIAKEAGYLTV SEO ID NO: 32 170 Bacterial FtsZ GVVTKPFHFEGGRRMRLAEQGIEELQKSVDTLIVIPNQNLFRIANDKTTFADAFAMADQV SEQ ID NO: 11 GVVTKPFHFEGGRRMRIADQGISDLQKSVDTLIVIPNQNLFRIANDKTTFADAFAMADQV SEQ ID NO: 12 GVVTKPFQFEGARRMKTAEAGIEELQKSVDTLIVIPNQNLFRIANEKTTFSDAFAMADQV SEQ ID NO: 13 GVVTKPFHFEGGHRMKTADKGLIELQQFVDTLIVIPNQNLFRIANEQTTFADAFKMADDV SEQ ID NO: 14 GVVTKPFHFEGRHRMRLADSGIQELQRYVDTLIVIPNQNLFRVANERTTFAEAFGMADQV SEO ID NO: 15 Mitochondrial FtsZ AVVTKPFHFEGMIRMKTAEQGIVELTEHVDTMLVIPNQNLFKVASPRTSFLDAFRLADHV SEQ ID NO: 16 AVVTKPFRFEGNNRAKLAAQGLAELKDSVDTMLVIPNQNLFNMSNERTSLMDAFRMADNV SEQ ID NO: 4 AVVTKPFSFEGKHRARLANEGIRSLEDRVDTLIIIPNQNIFKLINASTSMADAFGLADDI SEQ ID NO: 17 GVVSTPFRSEGPNRTRLANAGVKELAKYVDTLIVVPNQNLLALADKSTTMLEAFRYADDV 2 SEQ ID NO: Chloroplast FtsZ GIVTTPFSFEGRRRAVQAQEGIAALRDNVDTLIVIPNDKLLTAVSPSTPVTEAFNLADDI SEQ ID NO: 18 GIVTTPFSFEGRRRAVQAQEGIAALRENVDTLIVIPNDKLLTAVSPSTPVTEAFNLADDI SEQ ID NO: 19 GIATTPFSFEGRRRTVQAQEGLASLRDNVDTLIVIPNDKLLTAVSQSTPVTEAFNLADDI SEQ ID NO: 20 GIVTTPFAFEGRRRAVQAHEGIAALKNNVDTLITIPNNKLLTAVAQSTPVTEAFNLADDI SEQ ID NO: 21 GIVTTPFAFEGRRRSVQAHEGIAALKNNVDTLITIPNNKLLTAVAQSTPVTEAFNLADDI SEQ ID NO: 22 GVVTKPFAFEGKRRMQQANDAILNLRNKVDTLIVVSNDKLLQIVPDNTPLQDAFSVADDI SEQ ID NO: 23 GVVTKPFGFEGRKRMQQARNAILEMKDKVDTLIVVSNDKLLKIVPDNTPLTEAFLVADDI SEQ ID NO: 24 GVVTRPFVFEGRRRTSQAEQGIEGLKSRVDTLIIIPNNKLLEVIPEQTPVQEAFRYADDV SEQ ID NO: 25 GIVTRPFTFEGRRRAKQAEEGINALQSRVDTLIVIPNNQLLSVIPAETPLQEAFRVADDI SEQ ID NO: 26 GVVTYPFSFEGRKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPLQDAFLLADDV SEQ ID NO: 27 GVVTYPFSFEGRKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQMPLQDAFRLADDV SEQ ID NO: 28 GVVTYPFSFEGRKRSVQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPLQDAFLLADDV SEQ ID NO: 29 GVVTYPFSFEGRKRSVQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPLQDAFLLADDV SEO ID NO: 30 GVVTYPFSFEGRKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPLQNAFLLADDV SEO ID NO: 31 GVVTYPFSFEGRKRSLQALEAIEKLQKNVDTLIVIPNDRLLDIADEQTPLQNAFLLADDV SEO ID NO: 32

Sec 10 No. 12	•	
SEQ 1D NO: 12 SEQ 1D NO: 12 SEQ 1D NO: 13 SEQ 1D NO: 13 SEQ 1D NO: 14 SEQ 1D NO: 15 SEQ 1D NO: 15 SEQ 1D NO: 15 SEQ 1D NO: 16 SEQ 1D NO: 16 Mitochondrial FFSZ SEQ 1D NO: 16 SEQ 1D NO: 17 SEQ 1D NO: 18 SEQ 1D NO: 19 SEQ 1D NO: 19 SEQ 1D NO: 19 SEQ 1D NO: 19 SEQ 1D NO: 20 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 20 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 21 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 22 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 21 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 22 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 23 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 20 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 21 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 25 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 26 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 27 LEGGVEGISDLITIFGLANDFADVRAYMANAGSSLMGIGT. ATGKTRARDALNAI SEQ 1D NO: 26 LEGGVEGISDLITIFGLANDFADVRAYMADAGSALMGIGT. ATGKTRARDALNAI SEQ 1D NO: 27 LEGGVEGISDLITIFGLANDFADVRAYMADAGSALMGIGT. ATGKTRARDALNAI SEQ 1D NO: 28 LEGGVEGISDLITIFGLANDFADVRAYMADAGSALMGIGT. ATGKTRARDALNAI SEQ 1D NO: 29 LEGGVEGISDLITIFGLANDFADVRAYMADGSGTAMLGYGV. SSSKNRABEARACAT SEQ 1D NO: 21 SEQ 1D NO: 10 SEQ 1D NO: 11 SEQ 1D NO: 12 SEQ 1D NO: 23 SEQ 1D NO: 24 SEQ 1D NO: 25 SEQ 1D NO: 25 SEQ 1D NO: 26 SEQ 1D NO: 27 SEQ 1D NO: 27 SEQ 1D NO: 29 SEQ 1D NO: 29 SEQ	Bacterial FtsZ	180
SEQ ID NO: 12 SEQ ID NO: 13 LYSGVASTIDIMVEGGINLDFADVRSVMREMGRAMMGTGE. A.SGEGRAMAAAEAAI SEQ ID NO: 14 LINGSVRSTIDIMVEGGINLDFADVRSVMREMGRAMMGTGE. DSGEDRALRAAESAI SEQ ID NO: 15 Mitochondrial Ftsz SEQ ID NO: 16 LINGSVRSTIDIMVEGGINLDFADVRSVVREMGRAMMGTGE. DSGEDRALRAAESAI SEQ ID NO: 17 LLEGVRSTIDIMVEGGINLDFADVRSVVREMGRAMMGTGE. DSGEDRALRAAESAI SEQ ID NO: 16 LLEGVRSTIDIMVEGGINLDFADVRSVVREMGRAMMGTGE. DSGEDRALRAAESAI LLEGVRSTIDIMVEGGINLDFADVRSVMRAMGSGRADGENRALRAAEDAI LLEGVRSTIDIMVEGGINLDFADVRSVMRAMGSSIMGIGT. ATGKTRARDAALNAI LLEGVRSTIDIMVEGADVRAIMANAGSSIMGIGT. ATGKTRARDAALNAI LEGVRSTISITITTGUNNUPFADVRAIMANAGSSIMGIGT. ATGKTRARDAALNAI LROGVRGISDITTTGUNNUPFADVRAIMANAGSSIMGIGT. ATGKTRARDAANAI LROGVRGISDITTTGUNNUPFADVRAIMANAGSSIMGIGT. ATGKTRARDAANAI LROGVRGISDITTTGUNNUPFADVRAIMANGSGTAALLGUGV. SSGNRAREAATAAI LROGVRGISDITTTGUNNUPFADVRAIMANGSGTAALLGUGV. SSGNRAREAAADAT LROGVRGISDITTTGUNNUPFADVRAIMANGSGTAALLGUGV. SSGNRAREAAADAT LROGVRGISDITTTGUNNUPFADVRAIMANGSGTAALLGUGV. SSSNRAREAABOAT LROGVRGISDITTTGUNNUP		LYSGVACITDLMVKEGLINLDFADVRSVMREMARPMMGTGEASGPARAMQAAEAAI
SEQ 1D NO: 14		LYSGVACITDLMVKEGLINLDFADVRSVMREMGRAMMGTGEASGEGRAMAAAEAAI
SEQ ID NO: 15 Mitochondrial Ftsz SEQ ID NO: 16 Mitochondrial Ftsz SEQ ID NO: 16 LkSGVRSITDLMVIPGLINLDFADVRSVVREMGRAMMGSGEVEMEAGNEERAIRAGONAI SEQ ID NO: 17 LLDGVKNISDLMVIPGLINLDFADVGSVMONMGNAMMGSGEVAD GENRALRAAEDAL LLGGVKSITDLMVIPGLINLDFADVGSVMONMGNAMMGSGEVAD GENRALRAAEDAL LLGGVKGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKTRARDAALNAI LRGGVKGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKTRARDAALNAI LRGGVKGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKSRAREAALSAI SEQ ID NO: 21 LRGGVKGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKSRAREAALSAI SEQ ID NO: 24 LRGGVVGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKSRAREAALSAI SEQ ID NO: 25 LRGGVGGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKSRAREAALSAI SEQ ID NO: 26 LRGGVGGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKSRAREAALSAI SEQ ID NO: 27 LRGGVGGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT ATGKSRAREAALSAI SEQ ID NO: 28 LRGGVGGISDLITTIGLVINVDFADVRAIMANAGSSLMGIGT SGKSRAREAALSAI SEQ ID NO: 29 LRGGVGGISDLITTIGLVINVDFADVRAIMADAGSALMGIGV SSSKNRAREAALSAI SEQ ID NO: 31 LRGGVGGISDLITTIGLVINVDFADVRAIMADAGSALMGIGV SSSKNRAREAALSOAT SEQ ID NO: 31 LRGGVGGISDLITTIGLVINVDFADVRAIMADAGSALMGIGV SSSKNRAREAABOAT SEQ ID NO: 31 LRGGVGGISDLITTIGLVINVDFADVRAIMADGSGTAMLGVGV SSSKNRAREAABOAT SEQ ID NO: 31 LRGGVGGISDLITTIGLVINVDFADVRAIMADGSGTAMLGVGV SSSKNRAREAABOAT SEQ ID NO: 31 LRGGVGGISDLITTIGGLNNVDFADVRAIMADGSGTAMLGVGV SSSKNRAREAABOAT SEQ ID NO: 31 SEQ ID NO: 11 SEQ ID NO: 11 SEQ ID NO: 12 ANPLLD. ETSMKGAGGLLISTTGGRDTLFEVDEAARTRREEVDP. DANILIGATFDEEL ANPLLD. ETSMKGAGGLLISTTGGRDTLFEVDEAARTRREEVDP. DANILIGATFDEEL ANPLLD. ETSMKGAGGLLISTTGGRDTLFEVDEAARTRREEVDP. DANILIGATPDEEL ANPLLD. ETSMKGAGGLISTTGGDDTLFEVDEAARTRREEVDP. DANILI	SEC ID NO: 13	LYSGVASITDLMIKEGLINLDFADVRSVMHEMGRAMMGTGEASGDGRALAAAEAAI
MITOCHONDRIAN TEST SEQ ID NO: 16	SEC ID NO: 14	LHAGVRGVTDLMIMPGLINLDFADIKAVMSEMGKAMMGTGEDSGEDRAIKAAESAI
SEQ ID NO: 16		LHSGVRSITDLMVLPGLINLDFADVRTVMTEMGKAMMGTGEGTAEDRALMAAQNAI
SEQ ID NO: 4		
		T VSCVPSITDIMTVPGLINIDFADVRSVVREMGRAMMGSGEVEMEAGNEERAIRASEAAI
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SEQ ID NO: 22 LRGGVRGISDITTYFGLVNNDFADVRATMANAGSLMGIGT. ATGKSKAREALSAI SEQ ID NO: 23 LRGGVVGISEIIVRPGLINVDFADVRSVMADAGSALMGIGT. GSGKTRAQDANAAI LRGGVVGITEIIVKPGLVNNDFADVRSVMADAGSALMGIGT. GSGKTRAQDANAAI LRGGVVGITEIIVKPGLVNNDFADVRSVMADAGSALMGIGT. GSGKTRACAATAAI SEQ ID NO: 25 LRGGVQGISDITTIPGLVNNDFADVRAVMADAGSALMGIGGV. SSGKSRAKEAATAAI LRGGV ID NO: 27 LRGGVQGISDITTIPGLVNNDFADVRAVMADAGSALMGIGGV. GSGKSRAKEAATAAI LRGGV ID NO: 28 LRGGVQGISDITTIPGLVNNDFADVRAVMKDSGTAMLGVGV. SSSKNRAEEAAEQAT SEQ ID NO: 28 LRGGVQGISDITTIPGLVNNDFADVKAVMKDSGTAMLGVGV. SSSKNRAEEAAEQAT LRGGV ID NO: 30 LRGGVGGISDITTIPGLVNNDFADVKAVMKDSGTAMLGVGV. SSSKNRAEEAAEQAT SEQ ID NO: 31 LRGGVGGISDITTIPGLVNNDFADVKAVMKDSGTAMLGVGV. SSSKNRAEEAAEQAT LRGGVGGISDITTIPGLVNNDFADVKAVMKDSGTAMLGVGV. SSSKNRAEEAAEQAT LRGGVGGISDITTIPGLVNNDFADVKAVMKDSGTAMLGVGV. SSSKNRAEEAAEQAT LCGGVGGISDITTIPGLVNNDFADVKAVMKDSGTAMLGVGV. SSSKNRAEEAAEQAT LCGGVGGISDITTIPGLVNNDFADVKAIMKDSGTAMLGVGV. SSSRNRAEEAAEQAT LCGGVGGISDITTIPGLVNDFADVKAIMKDSGTAMLGVGV. SSSRNRAEEAAEQAT LCGGVGGISDITTIPGLVNDFADVKAIMKDSGTAMLGVGV. SSSRNRAEEAAEQAT LCGGVGGISDITTIPGLVNDFADVKAIMKDSGTAMLGVGVV. SSSRNAEEAAEQAT LCGGVGGISDITTIPGLVNDFADVKAIMKDSGTAMLGVGVV. SSS		LROGUNGISDITITEGUNNULFADURATHANAGSSIMGIGT ATGKSRAREALSAI
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SEQ ID NO: 27 SEQ ID NO: 28 LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LCQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LCQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LCQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITIPGLVNVDFADVKAVMKDSGTAMLGVGVSSSRNRAEEAAEQAT Bacterial FtsZ SEQ ID NO: 11 SEQ ID NO: 12 ANPLLD.ETSMKGAQGLLISITGGRDLTLFEVDEAATRIREEVDP.DANIILGATFDEEL SEQ ID NO: 13 ANPLLD.ETSMKGAQGLLISITGGRDLTLFEVDEAARRIREEVDP.DANIILGATFDEEL SEQ ID NO: 14 SEQ ID NO: 15 MITCOLONIAL SSEQ ID NO: 16 SEQ ID NO: 16 SEQ ID NO: 16 SEQ ID NO: 17 SEQ ID NO: 18 SEQ ID NO: 19 SEQ ID NO: 20 CALORDARE FtsZ SEQ ID NO: 21 SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SSPLLD. IGIERATGIVWNITGGSDLTLFEVDEAAERVTRELDDPHANIIFGAVVDPSL SEQ ID NO: 24 SSPLLD. IGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP. SANLIFGAVVDPSL SEQ ID NO: 24 SSPLLD. IGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP. NANLIFGAVVDPAL SEQ ID NO: 25 SSPLLD. FPIERARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDPAL SEQ ID NO: 26 SSPLLD. FPIERARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDPAL SEQ ID NO: 25 SSPLLD. FPIERARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDDRY SEQ ID NO: 25 SSPLLD. FPIERARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDDRY SEQ ID NO: 27 SEQ ID NO: 28 SSPLLD. SIQGARGVYFNITGGSDLTLHEVNVAAEITYEVVDD. DANIIFGAVVDDRY SEQ ID NO: 28 SEQ ID NO: 29 SEQ ID NO: 29 SEQ ID NO: 29 SEQ ID NO: 29 SEQ ID NO: 30 SEQ ID NO: 30 SEQ ID NO: 31 LAPLIG. SSIQSATGVYYNITGGKDITLQEVNRVSQVVTSLADP. SANIIFGAVVDDRY SEQ ID NO: 31		LRQGVQGISDITTIPGLVNVDFADVRAVMADAGSALMGIGV GSGKSRAKFAATAAI
SEQ ID NO: 28 LRQGVQGISDIITIFGLVNVDFADVKAVMKDSGTAMLGVGVSSGKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNVDFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNDTFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNDTFADVKATMKDSGTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNDTFADVKATMLGGGITTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNDTFADVKATMLGGGITTAMLGVGVSSSKNRAEEAAEQAT LRQGVGGISDIITIFGLVNDTFADVKATMLGGGITTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNDTFADVKATMLGGGITTAMLGVGVVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNDTFADVKATMLGGGITTAMLGVGVVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNDTFADVKATMLGGGITTAMLGVGVVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNDTFADVKATMLGGGITTAMLGVGVVSSSKNRAEEAAEQAT LRQGVQGISDIITITAMLGGAVGDAVSSSKNRAEEAAEQAT LRQGVGSTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNDTAMLGGGITTAMLGVGVVSSSKNRAEEAAEQAT LRQGVGSSKNRAEEAAEQAT LRQGATGVAMLGVGVSSSKNRAEEAAEQAT LRQGVGTAMLGVGVSSKNRAEEAAEQAT LRQGVGSTAMLGVGVVITITGGGDTTLFEVDAAAEVIYADAVSCKNRAEEAAEQAT LRQGVGATAMLGVGVSSKNRAEEAAEQAT LRQGVGATAMLGVGV		LRQGVQGISDITII PGLVNVDFADVRAVMADAGSALMI CVCV SSSKNRAFFAAFOAT
REQ ID NO: 29 LRQGVQGISDIITIFGLVNVDFADVKAVMKDSTAMLGVGVSSSKNRAEEAAEQAT LRQGVQGISDIITIFGLVNVDFADVKAVMKDSGTAMLGVGVSSSKNRAEEAAEQAT SEQ ID NO: 31 LRQGVQGISDIITIFGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT SEQ ID NO: 32 LCQGVQGISDIITIFGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITIFGLVNVDFADAQTT SSSRNRAEEAAEQAT LCQGVQGISDIITIFGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGGVGISDIITIFGLVNVDFADAACVGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITIFGLVNVDFADAACVGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITIFGLVNVDFADAACVGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITIFGLVNVDFADAACVGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITIFGLVNDAIGGGDMTLFEVDEAAATIREEVDP. DANIILGATFDEAL ANPLLD .ETSLMGAQGLLISITGGRDMTLFEVDEAATRIREEVDP. DANIILGATFDEAL ANPLLD .ETSLMGAQGLLISITGGRDMTLFEVDAAAARITEEVDP. DANIILGATFDEAL ANPLLD .ETSLMGAQGLLISITGGRDMTLFEVDAAAARITEEVDD. DANIILGATFDEAL ANPLLD .ETSLMGAQGLLISITGGRDMTLFEVDAAAARITEEVDD. DANIILGATFDEAL ANPLLD .ETSLMGAQGLLISITGGRDMTLFEVDAAAARITEEVDD. DANIILGATFDEAL ANPLLD .ETSLMGAQGLLISITGGRDMTLGGNDTLGEVNAAAEVIYDLVDP. SANLIFGAVVDEAL SEQ ID NO: 24 SSPLLD .FPIEKARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDEAL SEQ ID NO: 25 SSPLLD .FPIEKARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDEAL SEQ ID NO: 26 SSPLLD .FPIEKARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDENY SEQ ID NO: 27 LAPLIG .SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP .S		LRQGVQGISDITTIPGLVNVDFADVKAVMKDSGTAFILOVGV SSCKNRAFFAAFOAT
REQ ID NO: 30 LRQGVQGISDIITTEGUNNDFADVKAVMKDSGTAMLGVGVSSSKNAEEAAEQAT EQ ID NO: 31 LCQGVQGISDIITTEGUNNDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT EQ ID NO: 32 LCQGVQGISDIITTEGUNNDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITTEGUNNDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDIITTEGUNNDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT 290 AND LD SEQ ID NO: 11 AND LD ETSMKGAQGLLISITGGRDLTLFEVDEAATRIREEVDP. DANIILGATFDEAL AND LLD .ETSMKGAQGLLISITGGRDLTLFEVDEAATRIREEVDP. DANIILGATFDEAL AND LLD .ETSMKGAQGLLISITGGRDMTLFEVDEAANRIREEVDP. DANIILGATDDESL EVEL AND LLD .ETSMKGAQGLLISITGGRDMTLFEVDEAANRIREEVDP. DANIILFGAAFDPSL END LLD .ETSLKGARGVLVNITGGFDMTLFEVDAANRIREEVDP. DANIIFGAAFDPSL END LLD .ETSLKGARGVLVNITGGSDLTLFEVDEAAERVTRELDDPHANIIFGSFDDSL NNPLLGGDFSVRSAKGMLVNITGGSDLTLFEVDEAAERVTRELDDPHANIIFGAVDPSL END LIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP. SANLIFGAVVDPSL END LIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP. SANLIFGAVVDPSL END LIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP. NANLIFGAVVDPAL END LIGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP. NANLIFGAVVDEAL END LIGIERATGIVWNITGGSDMTLFEVNAAEVIYDLVDP. NANLIFGAVVDEAL END LIGIERATGIVWNITGGSDMTLFEVNAAEVIYDLVDP. NANLIFGAVVDEAL END LIGIERATGIVWNITGGSDMTLFEVNAAEVIYEVVDD. NANLIFGAVVDEAN END LIGIERATGIVWNITGGSDMTLFEVNAAEVIYEVVDD. DANIIFGAVVDEAN END LIGIERATGIVWNITGGSDMTLFEVNA		LRQGVQGISDITTIPGLVNVDFADVKAVMKDSGTAMLGVGV SSSKNIDAFFAAFOAT
SEQ ID NO: 31 EQCEVICATION NO: 32 LCQGVQGISDITITEGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVDFADVKAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLVNVAIMKDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVQGISDITITEGLXNAIMCDSGTAMLGVGVSSSRNRAEEAAEQAT LCQGVGISDITITEGLXNAITEGLACATION LCGGATAMLGVGVSSSRNRAEEAAEQAT LCQGVGISDITLGEAMGQUTLEEVDEAATRIREEVDP.DANIILGATFDEAL ANPLLD. ETSMKGAQGLLISITGGRDHTLEEVDEAAARIREEVDP.DANIIFGAFDDESL SEQ ID NO: 16 SEQ ID NO: 17 SEQ ID NO: 17 SEQ ID NO: 18 SEQ ID NO: 20 SPLLD. ETSMKGAQGLLISITGGRDHTLEEVDEAATRIREEVDP.DANIIFGAVVDPSL ANPLLG STOPATH LEVDEAANRIREEVDP.DANIIFGAVVDPSL ANPLLG STOPATH LEVDEAAARIREEVDP.DANIIFGAVVDPSL ANPLLG STOPATH LEVDEAAARIREEVDP.DANIIFGAVVDPSL ANPLLD LEVSKGAKAVLVNVTGGSDHTLFEVNAAAEVIYDLVDP.DANIIFGAVVDPSL SEQ ID NO: 21 SEQ ID NO: 21 SEQ ID NO: 16 SEQ ID NO: 22 SEDLID. IGIERATGIVWNITGGSDHTLFEVNAAAEVIYDLVDP. SANIIFGAVVDPSL SEQ ID NO: 23 SSPLLD. FPIEKARGIVFNITGGSDHTLFEVNAAAEVIYDLVDP.NANLIFGAVVDPAL SEQ ID NO: 26 SSPLLD. FPIEKARGIVFNITGGSDHTLFEVNAAAEVIYDLVDP.NANLIFGAVVDDRY SEQ ID NO: 27 LAPLIG. SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY LAPLIG. SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY LAPLIG. SSIQSATGVVYNITG		LRQGVQGISDIITIPGLVNVDFADVKAVMKDSGIAMLGVGVSSSKNIKAEBAADQM
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Bacterial Ftsz SEQ ID NO: 11 SEQ ID NO: 12 ANPLLD.ETSMKGAQGLLISITGGRDLTLFEVDEAATRIREEVDP.DANIILGATFDEAL ANPLLD.DTSMRGAGGLLISITGGRDMTLFEVDEAATRIREEVDP.DANIILGATFDEAL ANPLLD.DTSMRGAGGLLISITGGRDMTLFEVDEAARRIREEVDA.DANVIFGAIDDESL SEQ ID NO: 13 SNPLLD.HSSMCGARGVLINITGGRDMTLFEVDEAANRIREEVDA.DANVIFGAIDDESL SEQ ID NO: 15 ANPLLD.DTSMRGAGGLLISITGGRDMTLFEVDEAANRIREEVDA.DANVIFGAIDDESL SEQ ID NO: 16 SEQ ID NO: 16 SEQ ID NO: 16 SEQ ID NO: 17 SEQ ID NO: 17 SEQ ID NO: 17 SEQ ID NO: 17 SEQ ID NO: 18 SEQ ID NO: 19 SEQ ID NO: 19 SEQ ID NO: 20 SEPLLD. IGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.SANLIFGAVVDPSL SEQ ID NO: 21 SEQ ID NO: 22 SPLLD. VGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SEQ ID NO: 23 SSPLLD. SPIERARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SEQ ID NO: 24 SSPLLD. FPIERARGIVFNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SEQ ID NO: 25 SSPLLE. SSIQGARGVVFNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SEQ ID NO: 26 SSPLLE. SSIQGARGVVFNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SEQ ID NO: 27 LAPLIG. SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP. SANIIFGAVVDDRY SEQ ID NO: 28 LAPLIG. SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP. SANIIFGAVVDERY SEQ ID NO: 30 LAPLIG. SSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP. SANIIFGAVVDERY SEQ ID NO: 31		LCQGVQGISDITTIPGLVNVDFADVKAIMKDSGTAMLGVGVSSSKIKABAALQAT
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SEQ ID NO: 26 SSPLLESSIQGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL SEQ ID NO: 27 SEQ ID NO: 28 SEQ ID NO: 29 SEQ ID NO: 29 SEQ ID NO: 30 SEQ ID NO: 31 SEQ ID NO: 31 SSPLLESSIQGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGLSIQSATGVVYNITGGKDITLQEVNKVSQVVTSLADP.SANIIFGAVVDERY	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM
SEQ ID NO: 27 SEQ ID NO: 28 SEQ ID NO: 29 SEQ ID NO: 30 SEQ ID NO: 31 SEQ ID NO: 31 LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGLSIQSATGVVYNITGGKDITLQEVNKVSQVVTSLADP.SANIIFGAVVDERY	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SEQ ID NO: 25	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM SSPLLECSIEGARGVVFNITGGSDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL
SEQ ID NO: 28 SEQ ID NO: 29 SEQ ID NO: 30 SEQ ID NO: 31 LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGLSIQSATGVVYNITGGKDITLQEVNKVSQVVTSLADP.SANIIFGAVVDERY	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SEQ ID NO: 25 SEQ ID NO: 26	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM SSPLLECSIEGARGVVFNITGGSDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL SSPLLESSIOGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL
SEQ ID NO: 29 SEQ ID NO: 30 SEQ ID NO: 31 LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGLSIQSATGVVYNITGGKDITLQEVNKVSQVVTSLADP.SANIIFGAVVDERY	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SEQ ID NO: 25 SEQ ID NO: 26 SEQ ID NO: 27	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM SSPLLECSIEGARGVVFNITGGSDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL SSPLLESSIQGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL LAPLIG. SSIOSATGVVYNITGGKDITLOEVNRVSQVVTSLADP.SANIIFGAVVDDRY
SEQ ID NO: 30 LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGLSIQSATGVVYNITGGKDITLQEVNKVSQVVTSLADP.SANIIFGAVVDERY	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SEQ ID NO: 25 SEQ ID NO: 26 SEQ ID NO: 27	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM SSPLLECSIEGARGVVFNITGGSDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL SSPLLESSIQGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY
SEQ ID NO: 31 LAPLIGLSIQSATGVVYNITGGKDITLQEVNKVSQVVTSLADP.SANIIFGAVVDERY	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SEQ ID NO: 25 SEQ ID NO: 26 SEQ ID NO: 27 SEQ ID NO: 28	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM SSPLLECSIEGARGVVFNITGGSDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL SSPLLESSIQGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY
	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SEQ ID NO: 25 SEQ ID NO: 26 SEQ ID NO: 27 SEQ ID NO: 28 SEQ ID NO: 29	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM SSPLLECSIEGARGVVFNITGGSDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL SSPLLESSIQGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY
ABS	SEQ ID NO: 21 SEQ ID NO: 22 SEQ ID NO: 23 SEQ ID NO: 24 SEQ ID NO: 25 SEQ ID NO: 26 SEQ ID NO: 27 SEQ ID NO: 28 SEQ ID NO: 29 SEQ ID NO: 30 SEQ ID NO: 31	QSPLLDIGIERATGIVWNITGGSDLTLFEVNAAAEVIYDLVDP.TANLIFGAVVDPAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL QSPLLDVGIERATGIVWNITGGSDMTLFEVNAAAEVIYDLVDP.NANLIFGAVVDEAL SSPLLDFPIEKARGIVFNITGGQDMTLHEINSAAEVIYEAVDS.NANIIFGALVDDNM SSPLLDFPITRAKGIVFNIVGGSDMSLQEINAAAEVIYENVDQ.DANIIFGAMVDDKM SSPLLECSIEGARGVVFNITGGSDLTLHEVNAAAETIYEVVDP.NANIIFGAVIDDRL SSPLLESSIQGAKGVVFNVTGGTDLTLHEVNVAAEIIYEVVDA.DANIIFGAVIDDRL LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDDRY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY LAPLIGSSIQSATGVVYNITGGKDITLQEVNRVSQVVTSLADP.SANIIFGAVVDERY

Bacterial F	`tsZ	300		
SEQ ID NO:	11	E.GLIRVSVVATGI		
SEQ ID NO:	12	E.GLIRVSVVATGI		
SEQ ID NO:	13	E.GVIRVSVVATGI		
SEQ ID NO:	14	K.GIIRVSVVATGI		
SEQ ID NO:	15	E.GVIRVSVVATGM		
Mitochondri	al Fts	<u>Z</u>		
SEQ ID NO:	16	Q.GRLRVSVLATGI		
SEQ ID NO:	4	G.GKLRVSVVATGI		
SEQ ID NO:	17	Q.GSIRVSIVATGI		
SEQ ID NO:	2			
Chloroplast FtsZ				
SEQ ID NO:	18	C.GQVSITLIATGF		
SEQ ID NO:	19	S.GQVSITLIATGF		
SEQ ID NO:	20	S.GQVSITLIATGF		
SEQ ID NO:	21	H.GQVSITLIATGF		
SEQ ID NO:	22	H.DQISITLIATGF		
SEQ ID NO:	23	EN.EISITVVATGF		
SEQ ID NO:	24	TSGEVSITVLATGF		
SEQ ID NO:	25	Q.GEVRITVIATGF		
SEQ ID NO:	26	Q.GEMRITVIATGF		
SEQ ID NO:	27	.TGEIHVTIIATGF		
SEQ ID NO:	28	.TGEIHVTIIATGF		
SEQ ID NO:	29	.NGEIHVTIIATGF		
SEQ ID NO:	30	.NGEIHVTIIATGF		
SEQ ID NO:	31	.NGEIQVTLIATGF		
SEQ ID NO:	32	.NGEIQVTLIATGF		

